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**IN THE INTERNATIONAL BUREAU OF WORLD INTELLECTUAL
PROPERTY ORGANIZATION/PCT EXAMINATION OFFICE**

In re International Application: Barry W. TOWNSEND, et al.
International Application No.: PCT/US05/011304
International Filing Date: 1 April 2005
Title: PROSTHETIC FOOT WITH TUNABLE PERFORMANCE

**AMENDMENT UNDER ARTICLE 19
(PCT Rule 46)**

Responsive to the International Search Report mailed in the above-identified international application on September 21, 2005, enclosed herewith are replacements pages 36-39 containing amended claims 1, 6, 13, 25 and 26. A Statement Under Article 19(1) is being filed concurrently with this amendment.

Respectfully submitted,

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WE CLAIM:

1. A system for a lower extremity prosthesis comprising:
a longitudinally extending foot having a forefoot portion at one end, a
hindfoot portion at an opposite end and a midfoot portion extending between
5 said forefoot and hindfoot portions;
an ankle secured to the foot;
an upstanding shank extending upward from the ankle;
wherein the ankle and shank are formed by a resilient member which
extends upward from the foot by way of an anterior facing convexly curved
10 coiled portion of the member, and
wherein the member is secured to the foot by way of a coupling
element which is monolithically formed with the forefoot portion of the foot.
2. The system according to claim 1, wherein the coupling element
15 extends posteriorly from the forefoot portion as a cantilever over the midfoot
portion and part of the hindfoot portion of the foot.
3. The system according to claim 2, wherein the hindfoot portion
and the midfoot portion of the foot are monolithically formed and connected to
20 the monolithically formed forefoot portion and coupling element.
4. The system according to claim 1, wherein the lower end of the
resilient member is reversely curved.
- 25 5. The system according to claim 4, wherein the coupling element
houses the reversely curved lower end of the resilient member.
6. The system according to claim 4, wherein the reversely curved
lower end of the resilient member is in the form of a spiral to form said coiled
30 portion.
7. The system according to claim 6, wherein a radially inner end of
the spiral of the resilient member is fastened to the coupling element.

8. The system according to claim 1, wherein the coupling element includes a stop to limit dorsiflexion of the resilient member.

5 9. The system according to claim 1, further comprising a cosmetic covering in the shape of a human foot and lower leg, the cosmetic covering being located over the foot, ankle and at least the lower end of the shank with the shank extending upward from the ankle within the lower leg covering.

10 10. The system according to claim 1, further comprising a posterior calf device on the prosthesis to store energy during force loading of the prosthesis and return the stored energy during force unloading to increase the kinetic power generated for propulsive force by the prosthesis in gait.

15 11. The system according to claim 10, wherein the device includes at least one elongated member extending between the upper portion of the shank and a lower portion of the prosthesis, and at least one spring which is resiliently biased by the at least one elongated member in response to anterior movement of the upper end of the shank for storing energy.

20 12. The system according to claim 11, wherein the at least one spring includes a coiled spring with a free end connected to the elongated member, the coiled spring being resiliently expanded in response to anterior movement of the upper end of the shank in gait for storing energy.

25 13. A prosthetic foot comprising:
a longitudinally extending foot keel having a forefoot portion at one end, a hindfoot portion at an opposite end and a midfoot portion extending between said forefoot and hindfoot portions;
30 an upstanding, resilient calf shank secured to the foot keel at a lower end of the calf shank which forms a resilient ankle joint area of the prosthetic foot and extending upward from the foot keel by way of an anterior facing convexly curved portion of the resilient calf shank;

wherein the calf shank is secured to the foot keel by way of a coupling element, which is monolithically formed with the forefoot portion of the foot keel.

5 14. The prosthetic foot according to claim 13, wherein the coupling element extends posteriorly from the forefoot portion as a cantilever over the midfoot portion and part of the hindfoot portion of the foot keel.

10 15. The prosthetic foot according to claim 14 wherein the hindfoot portion and the midfoot portion of the foot keel are monolithically formed and connected to the monolithically formed forefoot portion and coupling element.

15 16. The prosthetic foot according to claim 13, wherein the lower end of the calf shank is reversely curved.

17. The prosthetic foot according to claim 16, wherein the coupling element houses the reversely curved lower end of the calf shank.

20 18. The prosthetic foot according to claim 16, wherein the reversely curved lower end of the calf shank is in the form of a spiral.

19. The prosthetic foot according to claim 18, wherein a radially inner end of the spiral of the calf shank is fastened to the coupling element.

25 20. The prosthetic foot according to claim 13, wherein the coupling element includes a stop to limit dorsiflexion of the calf shank.

30 21. The prosthetic foot according to claim 13, further comprising a cosmetic covering in the shape of a human foot and lower leg, the cosmetic covering being located over the foot keel and at least the lower end of the calf shank with the calf shank extending upward from the foot keel within the lower leg covering.

22. The prosthetic foot according to claim 13, further comprising a posterior calf device on the prosthetic foot to store energy during force loading of the prosthetic foot and return the stored energy during force unloading to increase the kinetic power generated for propulsive force by the prosthetic foot in gait.

23. The prosthetic foot according to claim 22, wherein the device includes at least one elongated member extending between the upper portion of the calf shank and a lower portion of the prosthetic foot, and at least one spring which is resiliently biased by the at least one elongated member in response to anterior movement of the upper end of the shank for storing energy.

24. The prosthetic foot according to claim 23, wherein the at least one spring includes a coiled spring with a free end connected to the elongated member, the coiled spring being resiliently expanded in response to anterior movement of the upper end of the shank in gait for storing energy.

25. A system for a lower extremity prosthesis comprising:
a longitudinally extending foot;
an ankle secured to the foot;
an upstanding shank extending upward from the ankle;
wherein the ankle and shank are formed by a resilient member having a reversely curved lower end secured to the foot to form the ankle and extending upward from the foot by way of an anterior facing convexly curved coiled portion of the member, and
wherein the resilient member is secured to the foot by way of a coupling element housing the reversely curved lower end of the member.

26. The system according to claim 25, wherein the reversely curved lower end of the resilient member is in the form of a spiral to form said coiled portion.